Metalinguistic Awareness In Bilingual Children

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Introduction

- Metalinguistic awareness is the ability to attend to and reflect upon the properties of language.
  - It generally refers to a specific conscious knowledge of the formal aspects of language, showing a deeper knowledge of language.
  - Bialystok (1986) characterized metalinguistic awareness as involving two language-processing skills: (a) "the analysis of linguistic knowledge into structured categories" and (b) "the control of attentional procedures to select and process specific linguistic information."
- Research findings indicate that bilingual children have greater metalinguistic awareness than monolingual children (Bialystok, 1986; Bialystok & Barac, 2012).
  - This is hypothesized to be because bilingual children's knowledge of two languages may increase their understanding of language structure and overall language analysis abilities (the first language-processing skill).
- The majority of studies on metalinguistic development in bilingual children have typically focused on one area of development (e.g., word structures or grammatical structures) and have not examined the early development of metalinguistic awareness.
- Thus, the proposed study aims to examine the metalinguistic awareness abilities of a cross-sectional sample of 2- through 5-year-old children emerging bilingual children attending an immersion preschool.

Study Purposes

The purposes of the study were to:

- better understand the performance of bilingual children on a metalinguistic awareness probe, and
- determine whether or not their performance differed from same-aged monolingual peers.

Participants

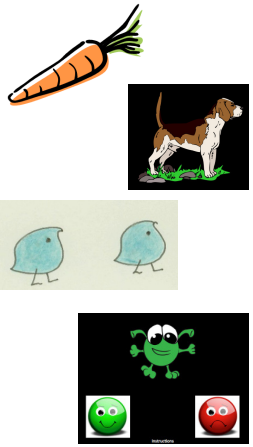
- 24 total participants
- Two groups: bilingual and monolingual preschoolers
- Group BI
  - 10 Bilingual participants from Golestan Center for Language Immersion and Cultural Education, Berkely, CA
  - Ages 2;5 - 5;7 (years; months) (M = 4;1)
- Group EO
  - 14 English-only participants from All Stars Montessori School in Minneapolis area
  - Ages 2;2 - 5;11 (M = 3;9)

Method

- Participants completed a battery of linguistic assessments in Persian and/or English (vocabulary, morphosyntax, and narrative) and a metalinguistic (ML) awareness probe
  - Administered by a PhD candidate and undergraduate student from the Speech-Language-Hearing Sciences Department
- The ML probe evaluated ML awareness at the word, morpheme, and syntax levels
  - Word Renaming: Participants were told we were making up a new language. They saw a picture of an object and we assigned a new made-up word for it. A series of questions were asked to see if the participant understood that the made-up word represented the picture they had previously seen.
  - Word Swap: Participants were asked to swap two different words and were then asked a series of questions to examine if they were able to consistently keep the words swapped.
  - Morpheme Production: Participants completed examiners' sentences applying English morphemes to novel words to evaluate morpheme-level understanding.
  - Grammatical Judgment: Participants listened to a recording of a sentence and judged whether the sentence was semantically and grammatically correct.

Assessment	Example
Word Manipulation	• Child sees picture of carrot. • Examiner explains that in our new language, it is called a 'gok.' • Examiner asks: Can you eat a 'gok?' Do 'goks' have wheels?
Word Swap	• Examiner says: Suppose that everyone in the world agreed that from now on we will call a dog a cat and a cat will be called a dog. All we are going to do is change the names. • Child sees picture of dog. • Examiner asks: What would this be?
Wug Task	• Examiner says: I am going to show you some pictures and say some sentences. Sometimes a word will be missing. I want you to tell me the missing word. • Child sees picture of one bird-like animal, examiner says: This is a wug. • Child sees picture of two bird-like animals, examiner says: Now there is another one. There are two of them. There are two _____.
Grammatical Judgment	• Examiner says: This is Wobo. Sometimes she says things the wrong way. You need to tell her when she says things the wrong way. • Examples: "I am slower than a puddle" and "I have a fast crown than you." Child responds with yes or no (correct or incorrect).

Table 1 *Metalinguistic Task Sections and Examples*



Analyses

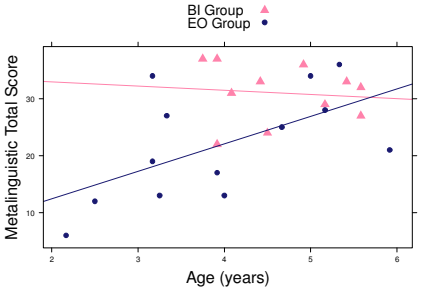


Figure 1 *Boxplot of Metalinguistic Scores in BI group and EO group*

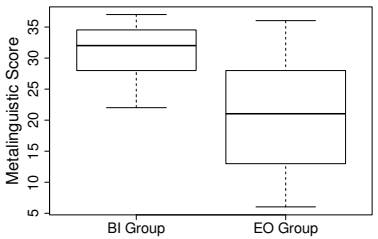


Figure 2 *Metalinguistic Scores as a Function of Age for Both Groups*

Results

Exact Wilcoxon Rank Sum Test	p-value
Metalinguistic Total Score	0.02
Word Manipulation	0.08
Word Swap	0.38
Wug Task	0.26
Grammatical Judgment	0.28

Figure 2 *Significance of Differences Across Groups*

- Significant difference between BI and EO groups
  - This is stronger in the first task, Word Manipulation
  - Word Manipulation is geared towards younger children
  - Wug Task and Grammatical Judgment were difficult for all children, regardless of group
- Participants seem to follow a trajectory similar to others who have completed this metalinguistic probe

Discussion

- These results support previous findings that bilingual children may have an advantage performing metalinguistic tasks
- This study will be continued to increase the sample size
- There are some limitations to this study:
  - Small sample size
  - BI children tended to be older (not significant); need children to be more balanced in age
  - Some children were uninterested in the task at hand which may cause unreliable results

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Key References

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